1. (Currently Amended) An emergency cooling system for a component ~~(1)~~ which is subject to thermal load in operation, ~~in particular a component of a turbine,~~comprising:

[[-]] ~~the~~ a component ~~(1)~~ having a wall ~~(3)~~ which, in operation, is acted on by heat on a first wall side ~~(14)~~ and is acted on by a flow of cooling fluid ~~(11)~~ on a second wall side ~~(15),~~;

[[-]] the wall ~~(3)~~ having at least one plug and at least one emergency cooling opening ~~(12)~~ which is closed off by ~~a~~ the at least one plug, ~~(16) and through which~~ cooling fluid ~~(13)~~ ~~flows~~ flowing through the at least one emergency cooling opening from the second wall side ~~(15)~~ to the first wall side ~~(14)~~ when the at least one plug ~~(16)~~ is absent~~,~~;

[[-]] the plug ~~(16)~~ being ~~designed in such a way that it melts~~ configured and arranged to melt at a predetermined temperature~~,~~;

~~characterized~~

[[-]] ~~in that~~ the at least one plug ~~(16) is~~ comprising a body which is produced separately from the component ~~(1),~~; and

[[-]] ~~in that~~ the at least one plug ~~(16) is~~ being inserted into the emergency cooling opening ~~(12)~~, in which ~~it~~ the at least one plug is connected to the component ~~(1)~~.

2. (Currently Amended) The emergency cooling system as claimed in claim 1, ~~characterized in that~~ wherein the at least one plug ~~(16)~~ is soldered or welded into ~~the~~ an associated at least one emergency cooling opening ~~(12)~~.

3. (Currently Amended) The emergency cooling system as claimed in claim 1 ~~or 2~~, ~~characterized in that~~ wherein the plug ~~(16)~~ is connected to the component ~~(1)~~ in a positively locking manner in ~~the~~ an associated at least one emergency cooling opening ~~(12)~~.

4. (Currently Amended) The emergency cooling system as claimed in claim 3, ~~characterized~~

[[-]] ~~in that~~ wherein the at least one plug ~~(16)~~ has a first positive locking contour ~~(18),~~;

[[-]] ~~in that~~ the at least one emergency cooling opening ~~(12)~~ has a second positive locking

contour ~~(19),~~ which is ~~of~~ complementary ~~design~~ to the first positive locking contour ~~(18),~~; and

[[-]] ~~in that~~ the first positive locking contour ~~(18)~~ and second positive locking contour ~~(19)~~ are ~~designed in such a way~~ configured and arranged so that the at least one plug ~~(16)~~ can be inserted into the at least one emergency cooling opening ~~(12)~~ on the first wall side ~~(14), which in operation is acted on by heat~~.

5. (Currently Amended) The emergency cooling system as claimed in claim 3 ~~or 4, characterized~~, wherein

[[-]] ~~in that~~ the at least one plug ~~(16)~~ has an external screw thread ~~(18)~~ and is screwed into the associated at least one emergency cooling opening ~~(12)~~, ~~which has~~ the at least one emergency cooling opening including an internal screw thread ~~(19)~~ which is complementary ~~with respect~~ to the external screw thread ~~(18), or~~

~~in that the plug (16) has first bayonet catch elements and is anchored in the associated emergency cooling opening (12), which has second bayonet catch elements, which are complementary with respect to the first bayonet catch elements~~.

6. (Currently Amended) The emergency cooling system as claimed in ~~one of claims 1 to 5~~claim 1, ~~characterized in that~~ wherein the at least one plug ~~(16)~~ is ~~designed in such a way as~~ configured and arranged to melt when it is exposed to the predetermined temperature or a higher temperature, for a predetermined time.

7. (Currently Amended) The emergency cooling system as claimed in ~~one of claims 1 to 6~~claim 1, ~~characterized in that~~ wherein the melting point of the at least one plug ~~(16)~~ is selected ~~so as~~ to be greater than the maximum temperature permissible for normal operation of the component ~~(1)~~ and lower than the melting point of the component ~~(1)~~.

8. (Currently Amended) The emergency cooling system as claimed in ~~one of claims 1 to 7~~claim 1, ~~characterized in that~~ wherein the at least one plug ~~(16)~~ is ~~designed so as~~

configured and arranged to melt relatively quickly when ~~its~~ the melting point of the at least one plug is reached.

9. (Currently Amended) The emergency cooling system as claimed in ~~one of claims 1 to 8, characterized~~claim 1, wherein

[[-]] ~~in that the~~ each at least one plug ~~(16)~~ has a plug body ~~(20)~~ having the predetermined melting point~~,~~; and

[[-]] ~~in that~~ the plug body~~(20)~~ has a protective layer ~~(21)~~ which: ~~is designed in such a way that it serves~~

acts as a diffusion barrier between the material of the plug body ~~(20)~~ and the material of the wall,

~~(3) and/or that it~~ protects the plug body ~~(20)~~ from oxidation, ~~and/or~~ corrosion, ~~and/or~~ erosion, or combinations thereof,

or both.

10. (Currently Amended) The emergency cooling system as claimed in ~~one of claims 1 to 9~~claim 1, ~~characterized~~wherein

[[-]] ~~in that~~ the at least one plug ~~(16)~~ or the plug body ~~(20) consists of~~ comprises an Ni-based alloy which contains ~~at least one of the following alloying constituents:~~ an alloying constituent selected from the group consisting of Hf, Si, Zr, Cr, Al, Ti, Nb, B, Co, and combinations thereof;

[[-]] ~~in that~~ to set a predetermined melting point (Tm) for the at least one plug ~~(16)~~ or for the plug body ~~(20)~~, the percentages by weight of the individual alloying constituents are selected ~~in such a way~~ so that the following equation ~~substantially~~ applies:

$Tm = (1460 - 9.5 \times Hf - 30 \times Si - 170 \times Zr - 2.75 \times Cr - 9.4 \times Al - 10.6 \times Ti - 10.8 \times Nb - 208 \times B + 1 \times Co)^\circ C$~~,~~; and

[[-]] the individual alloying constituents being introduced into the equation on the basis of their percentages by weight.

11. (Currently Amended) The emergency cooling system as claimed in ~~one of claims 1 to 10~~claim 1, ~~characterized in that~~ wherein the at least one plug ~~(16)~~ or plug body ~~(20) consists of~~ comprises one of the following Ni-based alloys:

[[-]] Ni-Hf alloy containing from 25 to 30% by weight of Hf, remainder Ni;

[[-]] Ni-Si alloy containing from 7 to 12% by weight of Si, remainder Ni;

[[-]] Ni-Hf-Si alloy containing from 20 to 30% by weight of Hf, from 5 to 12% by weight of Si, remainder Ni;

[[-]] Ni-Hf-Si-Cr-Al alloy containing from 10 to 30% by weight of Hf, from 5 to 12% by weight of Si, from 5 to 30% by weight of Cr, from 2 to 5% by weight of Al, remainder Ni;

[[-]] Ni-Hf-Cr-Al-Si-Co-Ti-Ta-Nb-Zr alloy containing from 5 to 20% by weight of Hf, from 5 to 30% by weight of Cr, from 2 to 5% by weight of Al, from 4 to 12% by weight of Si, from 0 to 25% by weight of Co, from 0 to 5% by weight of Ti, from 0 to 5% by weight of Ta, from 0 to 5% by weight of Nb, from 0.3 to 3% by weight of Zr, remainder Ni;

[[-]] Ni-Hf-Cr-Al-Si-Co-Ti-Ta-Nb-Zr-B alloy containing from 5 to 20% by weight of Hf, from 5 to 30% by weight of Cr, from 2 to 5% by weight of Al, from 4 to 12% by weight of Si, from 0 to 25% by weight of Co, from 0 to 5% by weight of Ti, from 0 to 5% by weight of Ta, from 0 to 5% by weight of Nb, from 0.3 to 3% by weight of Zr, from 0 to 2.5% by weight of B, remainder Ni.

12. (Currently Amended) The emergency cooling system ~~at least~~ as claimed in claim 9, ~~characterized~~wherein

[[-]] ~~in that~~ the protective layer ~~(21) consists of~~ comprises a thin Pt layer~~, or~~

~~in that the protective layer (21) consists of a Pt layer and an Al layer, or~~

~~in that the protective layer (21) consists of an Al layer or an Al alloy layer~~.

13. (Currently Amended) A plug for a component ~~(1)~~ which is subject to thermal load in operation, ~~in particular a component of a turbine,~~

[[-]] the component ~~(1)~~ having a wall ~~(3)~~ which, in operation, is acted on by heat on a first

wall side ~~(14)~~ and is acted on by a flow of cooling fluid ~~(11)~~ on a second wall side ~~(15),~~;

[[-]] the wall ~~(3)~~ having at least one emergency cooling opening ~~(12)~~ which can be closed off by the plug ~~(16)~~ and through which cooling fluid ~~(13)~~ flows from the second wall side ~~(15)~~ to the first wall side ~~(14)~~ when the plug ~~(16)~~ is absent~~,~~;

[[-]] the plug ~~(16) being designed so as~~ comprising: a plug configured and arranged to melt at a predetermined temperature~~,~~;

~~characterized~~

[[-]] ~~in that the plug (16) is~~ a body which is produced separately from the component ~~(1),~~;

[[-]] ~~in that the plug (16) has~~ a first positive locking contour ~~(18) and can~~ configured and arranged to be inserted into the emergency cooling opening ~~(12),~~;

[[-]] ~~in that~~ wherein the first positive locking contour ~~(18)~~, when the plug ~~(16)~~ has been inserted into the emergency cooling opening ~~(12)~~, interacts with a second positive locking contour ~~(19), which is~~ formed on the component ~~(19)~~ and is ~~of~~ complementary ~~design~~ to the first positive locking contour ~~(18)~~, and the first positive locking contour connects the plug ~~(16)~~ to the component ~~(1)~~ in a positively locking manner.

14. **(Canceled)**

15. (Currently Amended) A component which is acted on by heat in operation and used with a plug that melts at a predetermined temperature, ~~in particular belonging to a turbine,~~the component comprising:

[[-]] ~~the component (1) having~~ a wall ~~(3)~~ which, in operation, is acted on by heat on a first wall side ~~(14)~~ and is acted on by a flow of cooling fluid ~~(11)~~ on a second wall side ~~(15),~~;

[[-]] the wall ~~(3)~~ having at least one emergency cooling opening ~~(12)~~ which can be closed off by a plug ~~(16)~~ and through which cooling fluid ~~(13)~~ flows from the second wall side ~~(15)~~ to the first wall side ~~(14)~~ when the plug ~~(16)~~ is absent~~,~~;

[[-]] ~~the plug (16) being designed so as to melt at a predetermined temperature,~~

~~characterized~~

[[-]] ~~in that~~ wherein the component ~~(1) is~~ comprises a body produced separately from the plug

~~(16),~~;

[[-]] ~~in that the component (1),~~ in the region of the at least one emergency cooling opening ~~(12)~~, ~~has~~ a second positive locking contour ~~(19),~~ which is ~~of~~ complementary ~~design~~ to a first positive locking contour ~~(18)~~ formed on the plug ~~(16)~~, wherein

[[-]] ~~in that~~ the plug ~~(16)~~ can be inserted into the at least one emergency cooling opening ~~(12),~~;

[[-]] ~~in that~~ wherein the second positive locking contour ~~(19)~~, when the plug ~~(16)~~ has been inserted into the at least one emergency cooling opening ~~(12)~~, interacts with the first positive locking contour ~~(18)~~ and connects the plug ~~(16)~~ to the component ~~(1)~~ in a positively locking manner.

16. **(Canceled)**

17. (New) The emergency cooling system as claimed in claim 3,
wherein the at least one plug has first bayonet catch elements and is anchored in an associated at least one emergency cooling opening; and
wherein the at least one emergency cooling opening has second bayonet catch elements which are complementary to the first bayonet catch elements.

18. (New) The emergency cooling system as claimed in claim 1, wherein the component comprises a component of a turbine.

19. (New) The component as claimed in claim 15, wherein the component comprises a component of a turbine.

20 (New) The emergency cooling system as claimed in claim 9, wherein the protective layer comprises a Pt layer and an Al layer.

21. (New) The emergency cooling system as claimed in claim 9, wherein the

protective layer comprises an Al layer or an Al alloy layer.